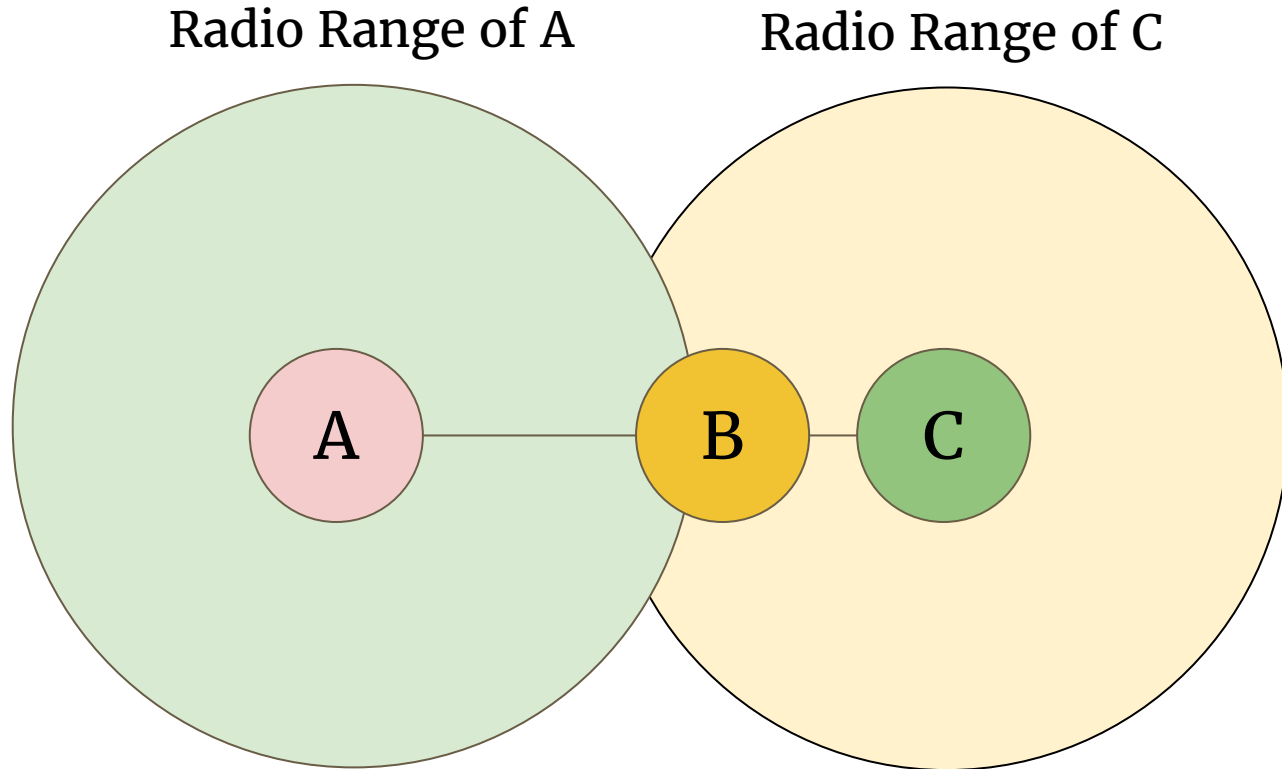

Wireless MAC Protocol Issues

MAC Protocol in Wireless vs Wired

- ❖ In wireless medium implementing MAC protocol is difficult.
- ❖ Collision detection is very hard in a wireless medium.
- ❖ So implementing a collision detection system in wireless is hard.
- ❖ There are two common problems are found in wireless network,
 - Hidden Terminal Problem
 - Exposed Terminal Problem

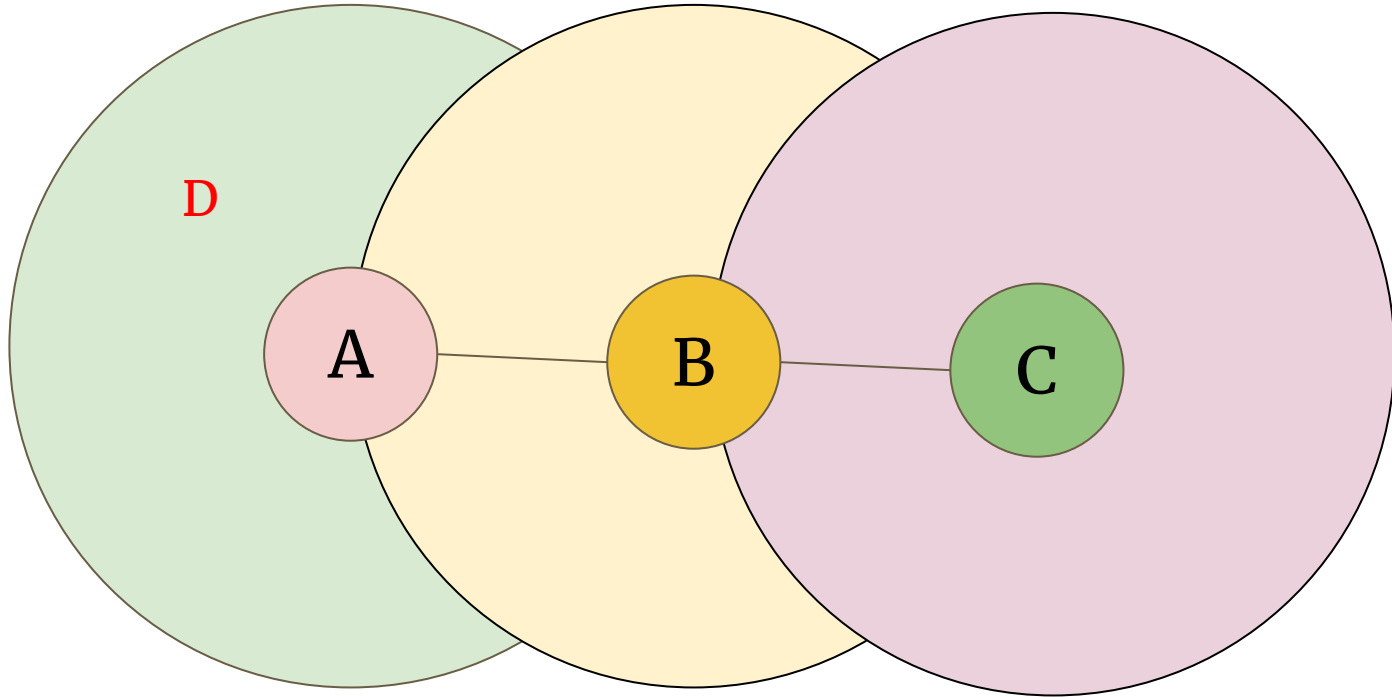
Hidden Terminal Problem



Hidden Terminal Problem

- ❖ A, B, C are the nodes are terminals for data transmission.
- ❖ Bigger circle is transmission range.
- ❖ Individual Transmission between A to B and C to B has no problem at all.
- ❖ But if A and C are want to transmit to B at same time the problem arises,
- ❖ Because,
 - B is present in transmission range of both A and C.
 - But A and C does not know each other.
 - A is hidden form C.
 - A cannot sense C is present and vice versa.
 - This create an problem that need to be solved by MAC protocol.

Exposed Terminal Problem



Hidden Terminal Problem

- ❖ A, B, C, are the nodes are terminals for data transmission.
- ❖ Bigger circle is transmission range.
- ❖ D wants to Transmit A.
- ❖ Normal conditions there is no problems.
- ❖ If B already transmitting to C means all the transmission are blocked for A because A is exposed to B.
- ❖ Even simultaneous transmission from D to A and B to C is not affecting each other.
- ❖ This is known as hidden terminal problem.
- ❖ It should be solved by MAC protocol.